2.0 COMPLIANCE SUMMARY

BWXTO operates in compliance with environmental requirements established by federal, state, and local statutes and regulations. Additional requirements are imposed by Executive Orders, DOE Orders, and various compliance agreements. The site's status with respect to environmental requirements is summarized below.

2.1 Major Environmental Statutes, Regulations and Orders

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Federal Facilities Agreement (FFA)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, also known as Superfund, is the federal government's primary environmental restoration legislation. Through CERCLA, the U. S. EPA identifies sites where hazardous substance contamination may present a risk to human health and/or the environment. Those sites presenting a human health or environmental risk are then placed on the National Priorities List (NPL).

MEMP was added to the NPL in November of 1989 because of volatile organic compound (VOC) contamination in groundwater. A Federal Facilities Agreement (FFA) between the DOE and the U.S. EPA followed in October of 1990. The FFA defines the responsibilities of each party for the completion of CERCLA-related activities.

The FFA became a tri-party agreement on July 15, 1993, when the Ohio EPA became a signatory. The addition of the Ohio EPA did not change the purpose of the agreement, but rather provided a mechanism for the full participation of the Ohio EPA in the CERCLA process.

Preliminary CERCLA assessment of contamination at the site identified approximately 125 locations of actual or suspected releases. These locations were grouped into "Operable Units" (OUs) based on waste type and/or geographical proximity. Originally, nine OUs were established. As CERCLA activities progressed, changes to the number and composition of the OUs were warranted. In 1995, the CERCLA program was reorganized to increase the efficiency of the environmental restoration effort. The initiative, termed "MOUND 2000," has accelerated clean-up of the site so that the land can be released for economic development much sooner than originally planned. The MOUND 2000 process addresses buildings and potential release sites (PRSs) individually. More than 400 PRSs have been identified. A core team, comprised of U.S. EPA, Ohio EPA, and DOE representatives, reviews the status of each building and PRS based upon an information package that serves as the basis for decision-making. The core team reaches a consensus decision to categorize each PRS or building in one of the following ways: (1) no further assessment is required, i.e., the site is protective of human health and the environment, (2) a response action is warranted, or (3) there is insufficient information to make a determination (further assessment is needed). If there is consensus that the site is protective of human health and the environment, no further action is taken. If it is determined that

further assessment is needed, the additional data necessary to make a decision are collected and presented to the core team. If it is cost-prohibitive to obtain the necessary data, a decision to initiate a response action may be made. A response action is a clean-up action tailored to the PRS or building of interest. Core team decisions to initiate a response action or that no further assessment is required are presented to stakeholders. The MOUND 2000 process accelerates clean-up of the site by focusing on discrete areas and streamlining decision making. The end result is a multi-year and multi-million dollar savings that will allow DOE to exit the site and make the site available for economic development. In 2000, over 80 CERCLA documents were presented to regulators and stakeholders, 96 PRS decisions were recorded, and approximately 30 CERCLA meetings were held with regulators. A brief description of environmental restoration activities for 2000 can be found in Chapter 3.

In addition to the activities described above, the Superfund Act established a list of CERCLA-regulated materials. Release of these materials to the environment is subject to certain reporting requirements. No releases of reportable quantities of CERCLA-regulated materials occurred in 2000.

Clean Air Act (CAA)

Nonradiological emissions. The Clean Air Act (CAA) of 1970, as amended in 1977, gave the U. S. EPA authority to regulate two groups of airborne pollutants: criteria pollutants and hazardous air pollutants. The CAA was again amended in 1990. The major impact of the amendments was the requirement that major emitters of pollutants obtain comprehensive (Title V) air permits. As an alternative to Title V permits, MEMP applied for and received Federally Enforceable State Operating Permits (FESOPs). The FESOPs place limits on annual usage and thus limit potential air emissions.

MEMP is also subject to state air pollution regulations, including OAC 3745-15,-31,-35. Compliance with State of Ohio regulations requires that applicable MEMP activities be permitted or otherwise registered. The Ohio Environmental Protection Agency (Ohio EPA) has issued MEMP twenty-two air permits, including seventeen sources on registration status (see Table 3-3). In order for a source to be considered for registration status, (1) the source owner must demonstrate compliance with all applicable laws including employment of best available technology, (2) maximum emissions of particulate matter, sulfur dioxide, nitrogen oxides, and organic compounds cannot exceed five tons per year, and (3) the source cannot be subject to U.S EPA new source performance standards or the National Emission Standards for Hazardous Air Pollutants (NESHAPs).

To ensure compliance with all state and local reporting requirements, chemical air emission data are collected. This information is maintained in a database that is updated each calendar year. In addition to providing information on release levels for materials regulated by the CAA, the database is used to meet the reporting requirements of other statutes such as the Emergency Planning and Community Right-to-Know Act. All emissions were within required limits and no enforcement actions were initiated in 2000.

Radiological emissions. Ten stacks and eight building vents at the site discharge radioactive effluents to the atmosphere. These releases are subject to 40 Code of Federal Regulations (CFR) Part 61, Subpart H,

("radionuclide NESHAPs"). These NESHAPs regulations are components of the CAA and are enforced by the U. S. EPA.

The primary standard against which compliance with 40 CFR 61, Subpart H is measured is an annual EDE. The regulations require that radionuclide air emissions from a given site do not exceed those amounts that would cause a member of the public to receive an annual EDE of 10 mrem (0.10 mSv). The regulations also state that each facility must determine this "maximum offsite dose" using an approved approach; the preferred approach is to use a computer code such as CAP88-PC.

Based on CAP88-PC calculations performed for MEMP emissions in 2000, the maximum EDE received by a member of the public was 0.03 mrem. This value represents 0.3% of the dose limit and demonstrates that MEMP releases for 2000 were well below allowable release levels.

The NESHAPs also define sampling and monitoring techniques which apply to stacks and vents that release radioactive materials. U. S. EPA Region 5 judged MEMP to be in full compliance with the requirements of 40 CFR 61, Subpart H, in 1998.

Clean Water Act (CWA)

The Federal Water Pollution Control Act (FWPCA) of 1972 was established to limit the types and rates of liquid effluents that may be discharged to the nation's waters. The U. S. and/or state EPA using a National Pollutant Discharge Elimination System (NPDES) permit set these limits for a specific site. An NPDES permit is also used to maintain compliance with more recent legislation, the Clean Water Act (CWA) of 1987.

Ohio EPA renewed the site's NPDES permit on November 1, 1997. The permit was modified in March 1998. It is effective until March 2002. The permit defines discharge limits and monitoring frequencies for the site's water effluents. NPDES permit limitations were exceeded three times during 2000 for total suspended solids (TSS). The exceedances were reported to the Ohio EPA and prompt corrective actions were taken following the incidents. The Ohio EPA issued a Notice of Violation (NOV) regarding acute biotoxicity. See Section 5.2 for more information. No enforcement actions were initiated in 2000.

In July 1997, the Ohio EPA issued an Authorization to Discharge (ATD) for the CERCLA OU1 groundwater remediation process. One element of this process involves the continuous pumping of groundwater from a series of extraction wells to prevent migration of VOCs into the aquifer. The ATD serves as an NPDES permit for wastewater discharged as a result of this CERCLA action, specifying discharge limits and monitoring frequencies. During 2000, no exceedances of ATD discharge limitations occurred.

Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act (SDWA) of 1974 required the U. S. EPA to establish a program to protect drinking water sources. To meet this goal, the EPA developed National Primary and Secondary Drinking Water Standards. These standards are applied to drinking water supplies "at the tap." Since the site withdraws well water for use as drinking water, MEMP is subject to the requirements of the Act.

In Ohio, the SDWA is administered by the Ohio EPA. In accordance with Ohio EPA requirements, the site's drinking water system is routinely tested for various compounds. These analyses must be performed by a state-certified laboratory. In 2000, Test America, Inc. performed the following analyses: gross alpha and beta, radium, tritium, total coliform, lead, copper, nitrate, MCL inorganics, and volatile organic chemicals. No exceedances were observed in 2000.

Under the Ohio EPA's SDWA authority, MEMP is also required to maintain a minimum chlorination level of 0.2 mg/L free chlorine (or 1.0 mg/L combined chlorine) in the site's potable water system. This standard applies throughout the distribution system.

Resource Conservation and Recovery Act (RCRA)

The Resource Conservation and Recovery Act (RCRA) of 1976, as amended by the Hazardous and Solid Waste Amendments (HSWA) of 1984, established a "cradle to grave" tracking system for hazardous wastes. The Acts led to the implementation of registration and/or permit requirements for all facilities that transport, generate, treat, store, and/or dispose of hazardous wastes. The Ohio EPA administers this program in the State of Ohio.

BWXTO operates two hazardous waste storage units; one is used for hazardous wastes and the other is used for mixed wastes, i.e., radioactive wastes that are also regulated by RCRA. The storage units are operated in accordance with a RCRA Part B permit issued by the Ohio EPA in October 1996.

Hazardous wastes stored onsite are managed pursuant to RCRA requirements with respect to waste characterization, labeling, storage container integrity, facility performance criteria, and emergency response preparedness. These wastes are shipped offsite for approved treatment and/or disposal.

Waste disposition. In 2000, 129,700 pounds of hazardous and other regulated wastes were shipped offsite. Of that amount, 65,985 pounds were RCRA-regulated wastes, 35,109 pounds were asbestos and PCB wastes, and 28,606 pounds were other wastes not suitable for sanitary landfilling.

It is the policy of DOE that hazardous wastes originating in Radioactive Material Management Areas (RMMAs) be treated as "suspect" mixed wastes, (i.e., suspected of being radioactively contaminated). This precaution is necessary to ensure that hazardous waste management facilities do not receive radioactive wastes unless they are equipped and licensed to do so. As a result of this policy, BWXTO has implemented procedures to ensure that waste sent to commercial treatment/storage/disposal facilities is not radioactively contaminated.

Nonhazardous solid wastes generated by BWXTO are disposed of in a licensed, permitted sanitary landfill. The volume of materials requiring landfill disposal has been reduced as a result of recycling programs for paper, glass, and scrap metal. See Section 3.7 for more information.

Federal Facility Compliance Act (FFCAct)

The Federal Facility Compliance Act (FFCAct) was signed into law on October 6, 1992. The FFCAct required that all DOE facilities prepare an inventory of mixed wastes and mixed waste treatment capabilities. In accordance with the Act, a Conceptual Site Treatment Plan was submitted to the Ohio EPA in October of 1993. Following discussions with the Ohio EPA and public stakeholders, the Conceptual Site Treatment Plan was revised and a *Draft Site Treatment Plan* was submitted to the Ohio EPA in August, 1994. The final *Site Treatment Plan* (STP) was submitted to DOE in March, 1995 and a Director's Findings and Orders (DF&O) was signed on October 4, 1995. The DF&O establishes schedules and treatment technologies for DOE's mixed waste. The STP is updated annually at a minimum.

BWXTO continues to reduce the volume of onsite legacy mixed waste. In 2000, four mixed waste streams were shipped off-site for treatment and disposal. BWXTO will continue to explore new treatment options as they become available to reduce the turnaround times associated with disposition of newly discovered mixed waste streams.

Toxic Substances Control Act (TSCA)

The goal of the Toxic Substances Control Act (TSCA) of 1976 is to protect human health and the environment from unreasonable risks associated with toxic chemical substances. The Act gave the U. S. EPA authority to govern the manufacture and use of chemicals deemed to present significant toxicity risks. Efforts continue to remove TSCA wastes associated with past practices. The two primary components of this category of waste are polychlorinated biphenyls (PCBs) and asbestos. In 2000, 35,109 pounds of asbestos and PCB wastes were shipped offsite for disposal.

Polychlorinated biphenyl (PCB)-contaminated materials that are not suspected of being radioactively contaminated are stored onsite pending their shipment to an EPA-approved facility

for disposal. "Suspect" asbestos and PCB wastes (those wastes originating in RMMAs) are retained onsite for waste characterization. Radioactively contaminated PCB wastes are also retained onsite. Disposal options are currently being explored for PCB-contaminated mixed waste.

The use of asbestos in pipes, panels, and as an additive to diallyl phthalate in parts production has been discontinued. Residual asbestos is handled, packaged, and shipped offsite to an approved disposal facility in compliance with TSCA regulations. In 2000, asbestos removal projects associated with building maintenance, and demolition activities continued. All such projects are carefully monitored by the Industrial Safety & Health Group to ensure compliance with TSCA and BWXTO's Safety and Hygiene Manual.

Emergency Planning and Community Right-to-Know Act (SARA Title III)

The reauthorization of CERCLA came in 1986 in the form of the Superfund Amendments and Reauthorization Act (SARA). The Emergency Planning and Community Right-to-Know (EPCRA) portion of that legislation is found in Title III of the Act. SARA Title III, Section 312, requires that sites handling "extremely hazardous" and "hazardous" substances notify regional emergency planning agencies. In compliance with the Act, MEMP annually reports hazardous chemical inventory data to the State Emergency Response Commission, the Montgomery/Greene County Information Coordinator, and the City of Miamisburg Fire Department. The inventory information is accompanied by maps showing the specific locations of the chemicals. In 2000, BWXTO used and/or stored two "extremely hazardous" and six "hazardous" chemicals in excess of EPCRA Section 312 reporting thresholds. See Section 5.3 for more information.

SARA Title III, or EPCRA, Section 313 mandates the annual submission of a Toxic Chemical Release Inventory report for sites which manufacture, process, or otherwise use listed toxic chemicals in quantities greater than specified thresholds. In 2000, BWXTO "otherwise used" ethylene glycol in excess of the EPCRA Section 313 reporting threshold.

National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) of 1969 was established to ensure that consideration is given to the potential environmental impact of federal actions prior to the irretrievable commitment of resources. DOE has formalized its approach to NEPA by enacting regulations (10 CFR 1021). Construction in the Power Systems Technology area did not need a NEPA review due to previous reviews conducted when DOE was considering relocating the heat source program to another site.

Endangered Species Act (ESA)

Provisions of the Endangered Species Act (ESA) of 1973, as amended, prohibit federal departments such as the DOE from carrying out projects that would destroy or modify a habitat deemed critical to the survival of an endangered or threatened species.

MEMP has performed a number of surveys for threatened or endangered species. Two potential ESA compliance issues have been noted. First, an endangered plant species, the Inland rush (*Juncus interior*), and an endangered bird species, the Dark-eyed junco (*Junco hyemalis*), have been observed onsite. Both species are listed on the State of Ohio Endangered Species list. Because only one individual of inland rush was located, it is not considered a viable breeding population at the site. The dark-eyed junco, despite being a common winter visitor to Ohio, is not known to breed in southwestern Ohio. Secondly, it has been determined that the site is in the habitat range of the federally endangered species of Indiana Bat (*Myotis sodalis*). Consultations with the U.S. Fish and Wildlife Service and the Dayton Museum of Natural History indicate that the site does not provide a suitable habitat for the Indiana bat and no Indiana bats have been observed onsite.

Neither the solitary sitings of the rush and the junco, nor the potential habitat for the Indiana bat, are expected to affect ongoing or future activities at the site.

National Historic Preservation Act (NHPA)

The National Historic Preservation Act (NHPA) of 1966, as amended, made the preservation of historic, architectural, and archeological resources a national policy. Consistent with this policy, the federal government requires that programs it funds or licenses including those in the State of Ohio be reviewed by the State Historic Preservation Office to determine what effects, if any, the planned activities under these programs will have upon such resources.

At MEMP, two studies were conducted to evaluate non-building archeological resources. These studies concluded that no significant archeological resources are located on the site. The Ohio Historic Preservation Office (OHPO) concurred with these conclusions.

An evaluation of buildings and structures for their architectural and cultural significance was submitted to the OHPO in June 1998. The OHPO concluded that the seventeen original structures are of historic significance because of their association with the early development of nuclear weapons (i.e., polonium research and fabrication). Because MEMP will demolish or transfer the eligible buildings, DOE initiated discussions with the OHPO to establish the terms of a Memorandum of Agreement (MOA). The purpose of the MOA is to mitigate adverse affects to these historic structures which will result from environmental restoration activities and transition of the site.

In early 2000, under the guidelines in the NHPA and the implementing regulations at 36 CFR 800, DOE approached the Advisory Council on Historic Preservation (ACHP) to resolve a dispute with the OHPO concerning the disposition of one of the buildings. The dispute was resolved and the ACHP and the DOE

signed the MOA in October 2000. Under the agreement, mitigation will consist of documentation packages for the 17 original buildings and a documentation package for the site (see Appendix G).

Executive Order 11988, "Floodplain Management"

A narrow area along the southwestern border of the site lies within the 100-year floodplain. The southwestern area is primarily located within an undeveloped portion of the site and is not expected to affect project activities. A Notice of Floodplain Involvement was published in the Federal Register in 2000 for the South Property (Parcel 4) transfer. The transfer is scheduled to take place in 2001.

Executive Order 11990, "Protection of Wetlands"

CERCLA ecological assessments have identified small wetland regions within and around the site. MEMP activities are planned to minimize adverse impacts to these regions. An evaluation must be conducted prior to any action taken within a floodplain or wetland. A public notice, including a Federal Register Notice publication, must be employed to notify stakeholders of the action. Authorization to backfill a wetland or discharge dredged or fill material into waterways designated as "waters of the United States" shall be secured from the U. S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. A corresponding Section 401 Water Quality Certification shall be secured from Ohio EPA, if applicable. The USACE concurred with the updated 1999 MEMP Wetlands Delineation.

A Notice of Wetlands Involvement for the installation of a Soils Staging Area was published in the Federal Register in 2000.

Executive Order 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements"

Executive Order 12856 mandates compliance with EPCRA (SARA Title III) reporting requirements for all federal facilities. In 2000, MEMP submitted an EPCRA Section 312 report for chemicals stored during calendar year 1999. A EPCRA Section 313 report was required to be submitted for 1999 usage of ethylene glycol. Data for 2000 will be reported in 2001 as specified by EPCRA.

The pollution prevention and waste minimization focus has shifted from routine operations to environmental restoration. Accomplishments in 2000 included collection of ferrous and non-ferrous metals, white paper, and toner cartridges for recycling.

2.2 Other Key Environmental Compliance Issues

Major External Environmental Audits in 2000

Ohio EPA RCRA inspection. The annual unannounced RCRA inspection by the Ohio EPA was conducted in December of 2000. The inspection focused on RCRA compliance issues. No noncompliances were identified.

Ohio EPA NPDES permit compliance inspection. The Ohio EPA conducted an NPDES permit compliance evaluation on June 23, 2000. All areas rated were judged to be satisfactory.

Ohio EPA SDWA sanitary survey. The Ohio EPA conducted an SDWA sanitary survey on June 20, 2000. All aspects of the potable water system and the required monitoring were judged to be satisfactory.

2.3 Summary of Permits

BWXTO operates in compliance with five state air permits. Seventeen additional sources of air emissions are on registration status with the State of Ohio. An NPDES permit and an ATD govern water releases from the site. Hazardous waste activities are governed by a RCRA Part B permit.